

TRENCH MIS DEVICE WITH THICK OXIDE LAYER IN BOTTOM OF GATE CONTACT TRENCH

ABSTRACT

A trench MIS device includes a thick dielectric layer at the bottom of the trench.

- 5 The thick dielectric layer can be formed by the deposition or thermal growth of a dielectric material, such as silicon dioxide, on the bottom portion of the trench. The thick dielectric layer, which reduces the capacitance between the drain and gate of the device, can be formed in both the active areas of the device, where the switching function is performed, and in the inactive areas where, among other things, contacts are made to the gate electrode.